REMARKS

Applicant intends this response to be a complete response to the Examiner's **12 July 2006** Non-Final Office Action. Applicant has labeled the paragraphs in his response to correspond to the paragraph labeling in the Office Action for the convenience of the Examiner.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/22/06 has been entered.

Claim Rejections - 35 USC § 102/103

4. **Claims 7, 8, 10, 12-13, 15, 21-29, 31, 35-40, 42-47** stand rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kao et al. (6,399,335 B1).

The Examiner contends as follows:

> Kao et al. provides methods and compositions for polymerizing a particular nucleotide with a polymerase. In general, the method involves (a) forming a mixture of a polymerase and a nucleoside triphosphate (NTP) comprising α, β and γ phosphates and a γ-phosphate phosphoester-linked functional group; and (b) incubating the mixture under conditions wherein the polymerase catalyzes cleavage of the NTP between the α and β phosphates, liberating a pyrophosphate comprising the functional group and polymerizing the resultant nucleoside monophosphate. *i.e.* incorporates the nucleoside monophosphate in a nascent polynucleotide. Col. 2-4.
>
> A variety of functional groups compatible with the polymerization reaction are provided. In one embodiment, the functional group is a detectable label and the method further comprises the step of detecting the label, wherein a wide variety of chromogenic and luminogenic labels are provided.
>
> In another embodiment, the functional group is a cell delivery enhancing moiety, - -OR, wherein R is independently selected from: substituted or unsubstituted (C1-C18) alkyl, alkenyl, alkynyl and aryl, each inclusive of carbocyclic and heterocyclic. These substituents provide enhanced therapeutic availability through enhanced gut or blood stability, cellular and/or membrane permeability, host phosphatase stability, *etc.* This aspect provides a wide variety of generally membrane permeable, relatively hydrophobic R substituents.
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> The invention provides kits for assaying polymerase reactions in standard laboratory spectrophotometers. The kits are designed so that the researcher can replace one or more components with the sample they wish to test.

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Col. 4 shows exemplary of detectable label (Table 1A (4aminophenol for example) and labeled NTP's (Table 1B). see also col. 7-12 . Which are viewed to be inclusive of the instant claims 23-26 for example.

Applicants have amended independent claims 7, 13 and 15 to add a pyrophosphorolysis inhibitor. Because Kao et al do not disclose pyrophosphorolysis inhibitor, Kao et al cannot anticipate this invention. Applicants, therefore, respectively request withdrawal of this rejection.

5. **Claims 7, 8, 10, 12-13, 15, 21-24, 27-29, 31-33,36-40, 42-44, 47** stand rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Williams (WO 00/36151).

The Examiner contends as follows:

Williams et al. provide assay methods for the detection of pyrophosphate cleavage, which is advantageous in number of biological reactions. For example, in DNA polymerase reaction (pages 7-8). William et al. discloses a method comprising the step of adding a modified nucleotide having a y-phosphate with a fluorophore moiety attached thereto (pages 4-5, 16). Said method comprising a nucleotide polymerizing agent (polymerase). Further page 19 discloses that there are many linking moieties and methodologies for attaching fluorophore to nucleotides. Figure 4 shows the .preferred linkers, which is viewed to be inclusive of instant claim 24. Additionally page 21 shows that the linker can comprised aryl groups (line 13). Suitable fluorophore include EDANS, (page 17, last paragraph). Page 7 shows that suitable NTPs include ATP. Williams et al. provides kits and integrated for practicing the assays (page 5). The polymerise. is a DNA polymerase such as DNA polymerase I, II, or III, for example (page 8).

Applicants have amended independent claims 7, 13 and 15 to add a pyrophosphorolysis inhibitor. Because Williams et al. do not disclose pyrophosphorolysis inhibitor, Williams et al. cannot anticipate this invention. Applicants, therefore, respectively request withdrawal of this rejection.

The Commissioner is also authorized to charge any underpayment or credit any overpayment to Deposit Account No. 501518.

If you have any questions, please call me at 713.977.7000.

Respectfully Submitted,

Date: October 31, 2006

Robert W. Strozier, Reg. No. 34,024

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